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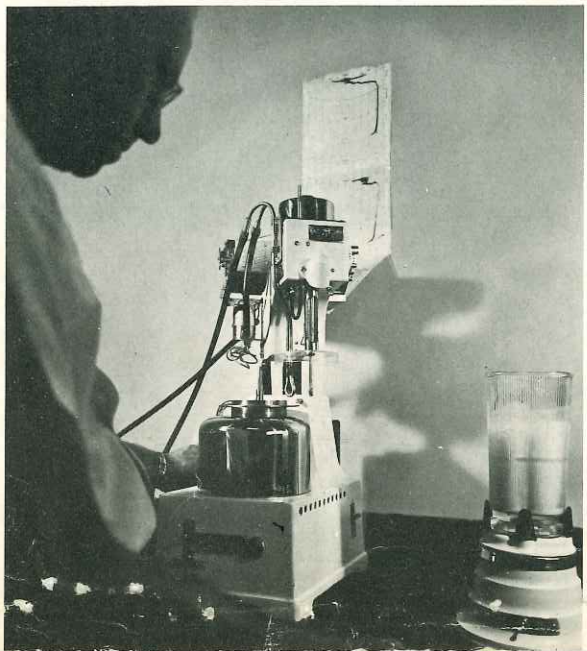
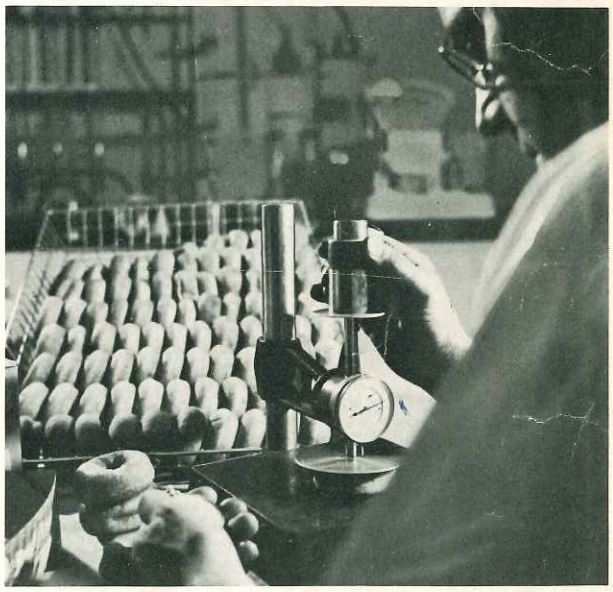
SMALLER HOLES FOR DOUGHNUTS

The Addition of Methocel to Commercial Doughnut Mixes Improves Quality and Appearance

"Absorbs Less fat"





Above: The compression test is used as a criteria of freshness. Methocel in doughnuts keeps them tender for much longer periods of time

Left: In the kitchens of the Food Development Laboratory scientific testing procedures are utilized to evaluate hundreds of different baking formulations. This machine is an Amylograph, which determines the mixing characteristics of different batters. The instrument established that the addition of Methocel to doughnut batters imparted better "cell structure," resulting in larger volume and more uniformity

Blend two cups of sifted flour, one cup of sugar and one teaspoon of Methocel . . .

The last ingredient doesn't sound like it belongs in a doughnut recipe, you say? No, probably not, unless you happen to be in the business of turning out two or three hundred doughnuts an hour and, of course, the quantities were increased correspondingly.

If so, you might have heard about how Methocel is helping to produce uniform, smooth-looking doughnuts which keep fresh on bakery shelves many hours longer. For this cellulose gum, already famous for its versatility, now is lending its unique properties to the baking industry.

As Methocel comes from the plant it is a fluffy white powder. It is completely tasteless and odorless and dissolves in water to form a colorless solution.

The unique property which makes it valuable in baking, however, is that when heated a solution of Methocel "gels." When it is cooled again, it reverts to the liquid state.

Methocel first was evaluated in Dow laboratories for doughnuts and cake mixes in an effort to develop a satisfactory dietetic food for persons allergic to eggs. Since a solution of Methocel gels at about the same temperature that egg protein coagulates, it was felt that it could perform the same function of forming a "cell structure" in foods during baking.

Fortification or strengthening of the cell structure was observed, but during the experiments it was found that additional benefits were derived from the use of Methocel. These results were so encouraging that the project of evaluating various types of Methocel in the making of doughnuts was assigned to the Food Development Laboratory of Baltimore, Maryland. This institution is an independent laboratory set up to test and evaluate all types of food.

Although its kitchens might seem a little too much like just what they are — laboratories — the Food Products Laboratory technicians do turn out some mighty tasty baked goods. But the baking of test foods is only the beginning of their job.

In the Methocel doughnut project, for instance, batch after batch were turned out, both with and without Methocel, and were subjected to intensive testing.

Even before baking, a great number of mixtures were studied carefully, with the help of a couple of ingenious instruments. The first is an Amylograph, which measures the viscosity of the mixtures at gel temperatures. This machine helped to confirm the findings of the Dow laboratory men — that Methocel did gel in the same temperature range as the starches and in the coagulation range of the proteins commonly used in making doughnuts.

The Farinograph is an instrument for determining the values of various ingredients for absorbing and holding water for periods of time. This important test established the fact that Methocel imparted higher water absorption values to the mixes, and, more important, helped to retain the water over much longer periods of time.

A third test was a simple compression test, the equivalent of pinching baked goods between thumb and forefinger to determine their freshness. This test was applied both to doughnuts containing Methocel and to those without Methocel over periods ranging up to 72 hours.

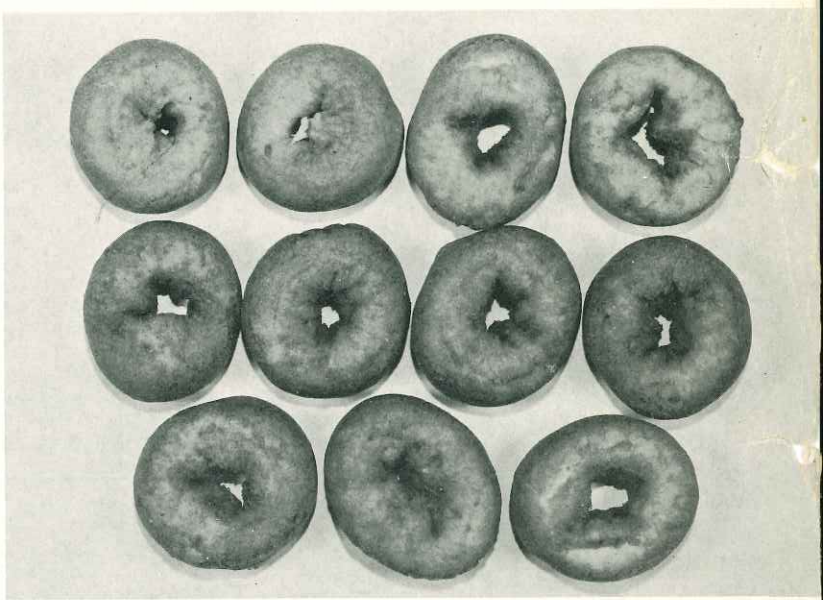
Just what did this test indicate? In the first place, and, according to Dr. S. W. Arenson, director of the Food Development Laboratory, most important to commercial bakers, Methocel "stabilized" doughnut batters. This means that batter which ordinarily "tightens up" during the time it is in the doughnut machine can be made much more uniform in consistency by addition of Methocel. The result is doughnuts which are more uniform in appearance, are smoother and which absorb less frying fat while cooking.

Once made, doughnuts containing Methocel retain their "freshness" much longer. Tests show that "cake" doughnuts containing Methocel were as tender at 87 hours, as determined by the compression tests, as doughnuts without Methocel were at 48 hours after frying.

In brief, the addition of Methocel means several things to the baker:

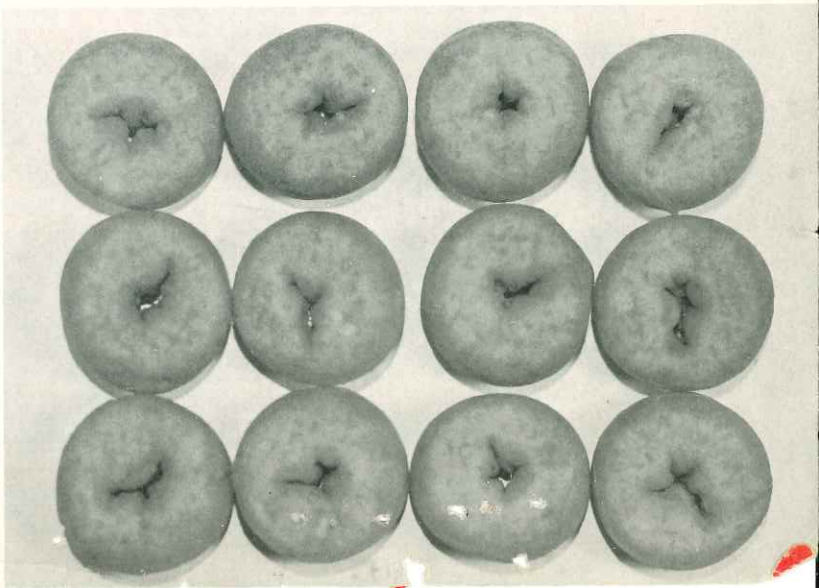
1. More tolerance in the mixing of flours. 2. More tolerance in the mixing of batters. 3. Better cell structure. 4. Controlled fat absorption. 5. Controlled water absorption. 6. Improved ease of handling and machining of dough. 7. Increased volume. 8. Improved keeping quality of the finished product. 9. More uniformity in appearance.

The success of Methocel in making doughnuts has stimulated research in its use in other baked goods, where preliminary results indicate that it will also be of considerable value over a broad field. The day may not be too far off when the baker may indeed find his recipe reads: *To 100 pounds of sifted flour add ½ pound of Methocel.*



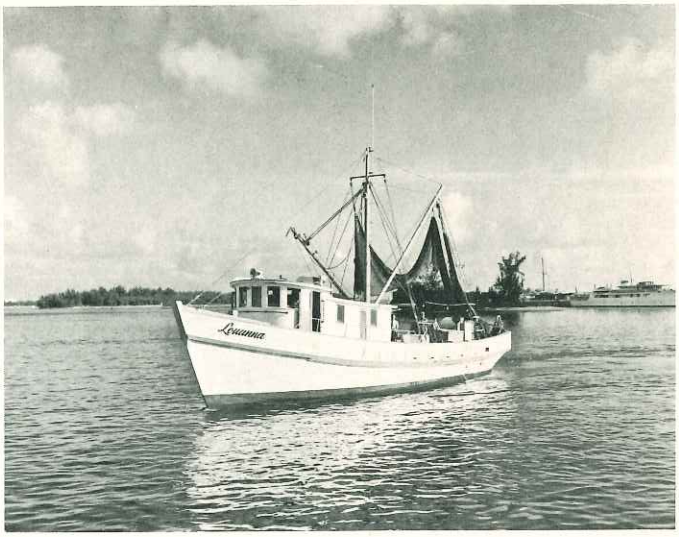
Above: Doughnuts made from a typical commercial formula. Note the irregular, rough appearance

Below: Doughnuts made from the same formula, but with the addition of .3 per cent Methocel

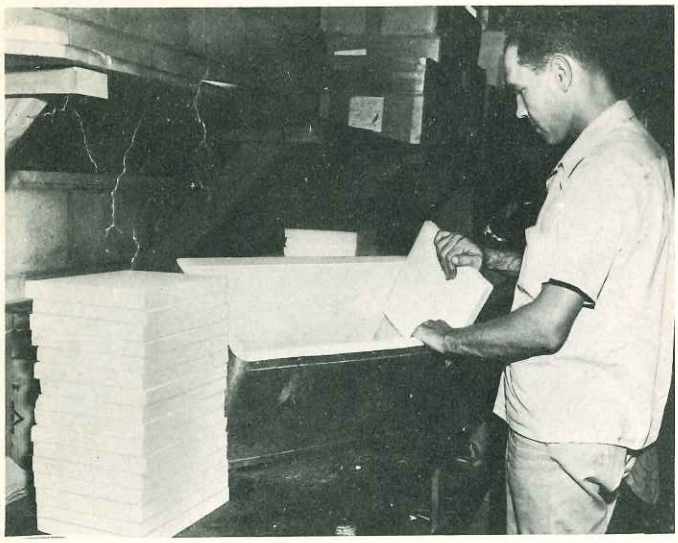


f Styrofoam

Food storage room. Here Styrofoam can be used to advantage since it is odorless and is vermin resistant
Photo courtesy of The Best Foods, Inc.

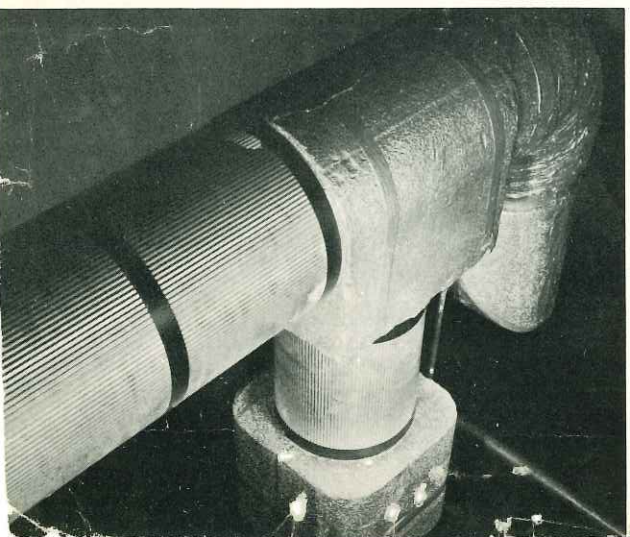


Insulated ship holds. Light weight and high moisture resistance again help to make Styrofoam an excellent insulation material for fruit carriers, shrimpers and fishing trawlers
Photo courtesy of Charles Ludwig



Refrigeration equipment. Resistance to water vapor is one of the primary reasons why Styrofoam is earning a place in domestic refrigerators, home freezer units, water coolers, ice cream cabinets and display cases
Photo courtesy of A. R. A. Manufacturing Co.

Perimeter insulation. Although Styrofoam is in its infancy as a home insulation material, it is being used successfully in this type of application



Pipe line insulation. Owners of dairies, meat packing plants, breweries, and many other users of low temperature piping like the Styrofoam properties of water vapor resistance, insulating efficiency and light weight when choosing it for pipe covering
Photo courtesy of Emmadine Farms, Inc.

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first impressions

"Medic," The Dow Sponsored Television Show, Has Brought Immediate and Gratifying Response

On September 13 The Dow Chemical Company embarked on a "tradition-breaking" venture. It had selected "Medic," a realistic departure from anything yet done on television, as its first full-sponsorship major network television show. In making this choice the company anticipated a certain amount of condemnation along with considerable acclaim. "Medic" is that kind of a show.

As expected, the program did elicit immediate and generous response. Scarcely had the last strains of Victor Young's theme died away at the close of "White Is The Color," the opening show, when the first expressions of opinion began to arrive.

Although it still is perhaps too early to place "Medic" in its proper niche, nevertheless the reaction of the public and the critics has gone a long way toward vindicating the faith and confidence that Dow placed in the show as a unique and superior production.

Complete returns have not been tabulated, but a good estimate would place about 90 per cent in the favorable category, with women liking it slightly better than men. Practically all comment, as expected, has been extreme—either high praise or serious criticism.

As a vehicle for introducing Saran Wrap to the nation's housewives, "Medic" seems to have done an outstanding job. The dignified, low-pressure commercials carrying authentic and believable messages have motivated the purchase of Saran Wrap on a highly satisfactory scale. During the first month of "Medic's" existence, sales of Saran Wrap increased approximately 30 per cent.

from the critics

Everyone present knew he had seen something really new, not only to the living room screen, but to any public screen. * * * Medic is sure to stir up a considerable controversy. It is equally sure not to pass without distinction * * *.

—Win Fanning,
Pittsburgh Post-Gazette

There has been nothing like Medic on television before this. Motion pictures took 20 years to reach a similar state of maturity.

—Terrence O'Flaherty,
San Francisco Chronicle

It is possible for programs of this nature to be gory and nauseating, but I thought that the first program was in excellent taste and packed a dramatic wallop.

—Charlton Wallace,
Cincinnati Times-Star

The pilot film * * * was fairly strong stuff for viewers accustomed to less realistic plays. * * * However, this reviewer found nothing in poor taste, but only true to real life.

—Charles H. Sanders,
Rock Island Argus

Why should we viewers turn that program on and deliberately subject ourselves to such harrowing experiences?

—Ethel Daccardo,
Chicago Daily News

What useful purpose is served in making and releasing such a horrifying and depressing clinical study * * * remains unfathomable to me.

—Burton Rascoe, Syndicated

I believe * * * that realism such as Medic presented * * * is a vital and undeniable part of life, that the more we understand it and know of it, the more richly and fully we can live it.

—John Lester, Syndicated

His (the doctor's) was a good feeling; he had brought life to a baby, and we all shared it, and it was a very good thing to share. There is a rightness about this format.

—Donald Kirkley,
Baltimore Sun

I have a definite feeling that television may be overstepping the bounds in its anxiety to impress the viewers * * *.

—George E. Condon,
Cleveland Plain Dealer

I was rather surprised to find that * * * Medic shocked some people. I found it completely honest and terribly moving.

—Faye Emerson, Syndicated

This is a stunner and may well prove to be one of the few really worthy programs on television.

—Paul Price,
Los Angeles Daily News

In my time behind this TV typewriter, I can't recall a video show capturing such a fervent audience in so short a time as Medic, the authentic documentary of medicine's fight against disease . . . It deserves this public tribute. Certainly no show of the season has been so much discussed in its factual search for an understanding of medicine's continuing drama in combating the miseries and heartaches of human ills and misfortunes.

—Earl Wennergren,
Rocky Mountain News

Medic was something of a disgrace—a gross amalgam of scientific lingo and third-rate soap opera.

—Philip Hamburger,
New Yorker

Medic is television at its creative and dramatic best. * * * factual and educational in content, but with a dramatic kick that few shows in any media have ever rivalled.

—Variety

It isn't often that television craftsmen throw off the shackles of mediocrity and transcend the boundaries of mere entertainment as they did in the premiere. * * * Medic ought to be required viewing for every television writer, director, producer and sponsor. They are not encouraged to copy it but to study it and reflect upon same.

—Val Adams, New York Times